

Notice of Allowability

Application No.

10/829,229

Examiner

Minh-Chau T. Pham

Applicant(s)

CHOI ET AL.

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment filed on 6/26/06.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

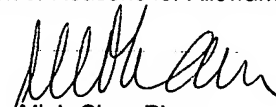
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Minh-Chau Pham
Patent Examiner
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Drawings

The original drawings filed on April 22, 2004 are approved by the Examiner.

Allowable Subject Matter

Claims 1-29 allowed.

The closest relevant arts are Kiser (4,850,264), the Great Britain Patent (GB 2,254,447 A) and Demeter et al (4,872,397).

Kiser teaches a confined space such as a building (19) essentially an enclosed system or a box-like housing (38 in Fig. 4) of generally rectangular configuration having inlet openings (40, 41, 44, col. 6, line 43-50), air filters (col. 7, lines 9-11), a fan (52) located in the housing, pressure sensors (24 a-e), temperature sensors (25 a-e), quality sensors (26 a-e) located in the housing as to sense the air quality of the room air drawn through the inlet (40, 41 and 44), a supplier assembly located inside the housing such as unit heat exchangers (not shown) installed in the housing for providing cooled air to the housing interior (col. 7, lines 12-16) or an air quality sensor (26) detecting the presence and amount of any of various gases or particulates in the air such as oxygen content or content of noxious gases, smoke, haze or airborne particulates (col. 9, lines 31-43), and a controller (23) for controlling the supplier assembly (Abstract, col. 2, lines 28-61, col. 5, lines 1-30, col. 8, lines 13-29, col. 9, lines 40-66).

The Great Britain reference teaches an interior atmosphere control system wherein the system contains a group of sensing devices (equivalent to the sensor assembly) which consists of sensors (11, 12) detecting and measuring the value of indoor/outdoor air temperature, humidity, pressure, oxygen content, carbon dioxide

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content, and all the sensed signals are fetched by a microcomputer (equivalent to the controller), and the microcomputer measures/detects the sensed values of the sensing devices based on the pre-stored program and data in a memory unit and output adequate control signals to actuate a series of actuation devices (equivalent to the supplier assembly) to modulate the parameters mentioned above. The system includes a housing, each opening of inlet/outlet air having a filter (F) to filter out dirt in the air, fans (F1, F2) discharging the introduced indoor air after air is purified (line 3, page 7 to line 22, page 13, Figure 1), a group of sensors (11, 12, page 7, lines 4-17), a supplier assembly including a humidifier (54), an oxygen supply device (55), heat exchanger (E1), an odor supply device (56), an ion generator (57), a magnetic field regulator (58), light regulator (59), an electric charge generator (57), an odor supply device (56), and a controller via microcomputer (3) for controlling the supplier assembly (page 9, line 16 through page 11, line 24).

Demeter et al (4,872,397) teach an environmental module (10) having a housing (30) with air inlets (40, 42), air outlets (52, 54), fans (45, 46) mounted in the housing, a filter (48), (see col. 2, line 64 through col. 3, line 15, col. 3, line 57 through col. 4, line 14), a supplier assembly such as potentiometers (72, 74, 76, 78 and 80), and a controller (28) for controlling the noise generator, lights, radiant heat panel, temperature and air flow, respectively (Abstract, col. 2, lines 5-8, col. 4, lines 5-14, col. 4, lines 36-55, col. 5, lines 5-13 and lines 34-55).

Claims 1-12 of this instant patent application differ from the disclosure of Kiser (4,850,264), the Great Britain Patent (GB 2,254,447 A) and Demeter et al (4,872,397) in

that the sensor senses composition of the room air drawn through the inlet, and the controller for controlling the supplier assembly to supply the at least one of the components of the room air to the room air filtered by the filter assembly when the sensor assembly senses an insufficient amount to at least one of the components of the room air drawn through the inlet.

Claims 13-29 of this instant patent application differ from the disclosure of Kiser (4,850,264), the Great Britain Patent (GB 2,254,447 A) and Demeter et al (4,872,397) in that the method of controlling an operation of an air cleaner comprises the steps of measuring at least one of components of the room air and comparing a sensed amount of the at least one of the components from the sensing step with previously inputted data, supplying the at least one of the components of the room air to the room air filtered by a filter assembly when the sensed amount is less than the previously inputted data, and guiding the room air filtered by a filter assembly and the supplied at least one of the components of the room air to an outlet by a fan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh-Chau T. Pham whose telephone number is (571) 272-1163. The examiner can normally be reached on Mon/Tues/Thur/Fri 7:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Minh-Chau Pham
Patent Examiner
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September 5, 2006